

Overview of materials for Liquid Crystal Polymer (LCP), 30% Glass Fiber Filled

Category : Polymer , Thermoplastic , Liquid Crystal Polymer (LCP) , Liquid Crystal Polymer (LCP), 30% Glass Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Liquid Crystal Polymer (LCP), 30% Glass Fiber Filled". Specific grades with glass content between 25% and 34% are included. Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the average value, and number of data points used to calculate the average. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Overview-of-materials-for-Liquid-Crystal-Polymer-LCP-30-Glass-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	1.36 - 1.69 g/cc	0.0491 - 0.0611 lb/in ³	Average value: 1.61 g/cc Grade Count:54
Filler Content	30.0 %	30.0 %	Average value: 30.0 % Grade Count:13
Water Absorption	0.0200 - 1.30 %	0.0200 - 1.30 %	Average value: 0.214 % Grade Count:7
Moisture Absorption at Equilibrium	0.00200 - 0.0600 %	0.00200 - 0.0600 %	Average value: 0.0336 % Grade Count:9
Linear Mold Shrinkage	-0.00100 - 0.00400 cm/cm	-0.00100 - 0.00400 in/in	Average value: 0.000879 cm/cm Grade Count:42
Linear Mold Shrinkage, Transverse	0.00100 - 0.00900 cm/cm	0.00100 - 0.00900 in/in	Average value: 0.00546 cm/cm Grade Count:35

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	40.0 - 100	40.0 - 100	Average value: 70.8 Grade Count:19
Hardness, Rockwell R	105 - 118	105 - 118	Average value: 109 Grade Count:6
Tensile Strength, Ultimate	26.6 - 211 MPa	3860 - 30600 psi	Average value: 144 MPa Grade Count:52
	14.0 - 250 MPa	2030 - 36300 psi	Average value: 83.4 MPa Grade Count:3
	@Temperature -40.0 - 250 °C	@Temperature -40.0 - 482 °F	
	14.0 - 250 MPa	2030 - 36300 psi	Average value: 83.4 MPa Grade Count:3
	@Thickness 0.800 - 3.17 mm	@Thickness 0.0315 - 0.125 in	
	6.97 - 193.7 MPa	1010 - 28090 psi	Average value: 83.4 MPa Grade Count:1
	@Strain 0.0600 - 2.19 %	@Strain 0.0600 - 2.19 %	

Mechanical Properties	6.97 - 193.7 MPa Metric	1010 - 28090 psi English	Comments Average value: 83.4 MPa Grade Count:1
	@Temperature -40.0 - 200 °C	@Temperature -40.0 - 392 °F	
Tensile Strength, Yield	100 - 175 MPa	14500 - 25400 psi	Average value: 144 MPa Grade Count:4
Elongation at Break	0.700 - 6.20 %	0.700 - 6.20 %	Average value: 2.25 % Grade Count:52
	0.800 - 1.40 %	0.800 - 1.40 %	
	@Temperature -40.0 - 250 °C	@Temperature -40.0 - 482 °F	Average value: 1.14 % Grade Count:1
	0.800 - 1.40 %	0.800 - 1.40 %	
	@Thickness 1.60 - 1.60 mm	@Thickness 0.0630 - 0.0630 in	Average value: 1.14 % Grade Count:1
Modulus of Elasticity	5.50 - 31.8 GPa	798 - 4610 ksi	Average value: 14.3 GPa Grade Count:46
	3.40 - 29.0 GPa	493 - 4210 ksi	
	@Temperature -40.0 - 250 °C	@Temperature -40.0 - 482 °F	Average value: 12.3 GPa Grade Count:3
	3.40 - 29.0 GPa	493 - 4210 ksi	
	@Thickness 1.60 - 3.17 mm	@Thickness 0.0630 - 0.125 in	Average value: 12.3 GPa Grade Count:3
Flexural Yield Strength	124 - 300 MPa	18000 - 43500 psi	Average value: 197 MPa Grade Count:47
	17.0 - 340 MPa	2470 - 49300 psi	
	@Temperature -40.0 - 250 °C	@Temperature -40.0 - 482 °F	Average value: 105 MPa Grade Count:3
	17.0 - 340 MPa	2470 - 49300 psi	
	@Thickness 0.800 - 3.17 mm	@Thickness 0.0315 - 0.125 in	Average value: 105 MPa Grade Count:3
Flexural Modulus	6.60 - 26.0 GPa	957 - 3770 ksi	Average value: 13.7 GPa Grade Count:52
	2.80 - 25.0 GPa	406 - 3630 ksi	
	@Temperature -40.0 - 250 °C	@Temperature -40.0 - 482 °F	Average value: 9.10 GPa Grade Count:3
	2.80 - 25.0 GPa	406 - 3630 ksi	
	@Thickness 0.800 - 3.17 mm	@Thickness 0.0315 - 0.125 in	Average value: 9.10 GPa Grade Count:3
Compressive Yield Strength	38.0 - 204 MPa	5510 - 29600 psi	Average value: 107 MPa Grade Count:21
			Average value: 16.8 GPa Grade

Compressive Modulus Mechanical Properties	6.00 - 33.0 GPa Metric	870 - 4790 ksi English	Count:15 Comments
Shear Strength	51.0 - 68.0 MPa	7400 - 9860 psi	Average value: 58.2 MPa Grade Count:3
Izod Impact, Notched	0.167 - 4.00 J/cm	0.312 - 7.49 ft-lb/in	Average value: 1.63 J/cm Grade Count:17
	1.10 - 4.90 J/cm	2.06 - 9.18 ft-lb/in	Average value: 2.67 J/cm Grade Count:3
	@Temperature -40.0 - - 40.0 °C	@Temperature -40.0 - - 40.0 °F	
	1.10 - 4.90 J/cm	2.06 - 9.18 ft-lb/in	Average value: 2.67 J/cm Grade Count:3
	@Thickness 0.800 - 3.17 mm	@Thickness 0.0315 - 0.125 in	
Izod Impact, Unnotched	3.47 J/cm - NB	6.50 ft-lb/in - NB	Average value: 6.24 J/cm Grade Count:9
	5.55 - 475 J/cm	10.4 - 890 ft-lb/in	Average value: 294 J/cm Grade Count:3
	@Temperature -40.0 - - 40.0 °C	@Temperature -40.0 - - 40.0 °F	
	5.55 - 475 J/cm	10.4 - 890 ft-lb/in	Average value: 294 J/cm Grade Count:3
	@Thickness 0.800 - 3.17 mm	@Thickness 0.0315 - 0.125 in	
Izod Impact, Notched (ISO)	4.00 - 67.0 kJ/m²	1.90 - 31.9 ft-lb/in²	Average value: 22.5 kJ/m² Grade Count:30
	20.0 - 20.0 kJ/m²	9.52 - 9.52 ft-lb/in²	Average value: 20.0 kJ/m² Grade Count:1
	@Temperature -40.0 - - 40.0 °C	@Temperature -40.0 - - 40.0 °F	
Izod Impact, Unnotched (ISO)	15.0 - 56.6 kJ/m²	7.14 - 26.9 ft-lb/in²	Average value: 34.8 kJ/m² Grade Count:7
	30.0 - 30.0 kJ/m²	14.3 - 14.3 ft-lb/in²	Average value: 30.0 kJ/m² Grade Count:1
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	
Charpy Impact Unnotched	0.600 - 8.60 J/cm²	2.86 - 40.9 ft-lb/in²	Average value: 3.69 J/cm² Grade Count:28
	2.20 - 3.00 J/cm²	10.5 - 14.3 ft-lb/in²	Average value: 2.52 J/cm² Grade Count:6
	@Temperature -30.0 - 30.0 °C	@Temperature -22.0 - 86.0 °F	
Charpy Impact, Notched	0.500 - 4.30 J/cm²	2.38 - 20.5 ft-lb/in²	Average value: 1.99 J/cm² Grade Count:34
	1.50 - 3.00 J/cm²	7.14 - 14.3 ft-lb/in²	Average value: 2.29 J/cm² Grade Count:7
	@Temperature -30.0 - 30.0 °C	@Temperature -22.0 - 86.0 °F	

Mechanical Properties	Metric	English	Comments
Tensile Creep Modulus, 1 hour	9800 - 19600 MPa	1.42e+6 - 2.84e+6 psi	Average value: 14000 MPa Grade Count:6
Tensile Creep Modulus, 1000 hours	7500 - 15800 MPa	1.09e+6 - 2.29e+6 psi	Average value: 11800 MPa Grade Count:6

Electrical Properties	Metric	English	Comments
Electrical Resistivity	100 - 1.00e+17 ohm-cm	100 - 1.00e+17 ohm-cm	Average value: 5.11e+15 ohm-cm Grade Count:37
Surface Resistance	10.0 - 1.00e+17 ohm	10.0 - 1.00e+17 ohm	Average value: 6.89e+15 ohm Grade Count:37
Dielectric Constant	2.70 - 32.0	2.70 - 32.0	Average value: 4.72 Grade Count:32
	4.10 - 5.00	4.10 - 5.00	Average value: 4.55 Grade Count:5
	@Temperature 100 - 250 °C	@Temperature 212 - 482 °F	
	4.10 - 5.00	4.10 - 5.00	Average value: 4.55 Grade Count:5
	@Frequency 1000 - 1.00e+9 Hz	@Frequency 1000 - 1.00e+9 Hz	
Dielectric Strength	16.1 - 56.0 kV/mm	410 - 1420 kV/in	Average value: 33.4 kV/mm Grade Count:26

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China